

REMARKS

The present amendment is prepared in accordance with the new revised requirements of 37 C.F.R. § 1.121. A complete listing of all the claims in the application is shown above showing the status of each claim. For current amendments, inserted material is underlined and deleted material has a line therethrough.

Applicants appreciate the comments in response to the last amendment and the indication of allowable subject matter with respect to claims 4-10, 12, 13, 15-17, 19 and 20. With respect to the six rejected claims (1-3, 11, 14 and 18) reconsideration is respectfully requested in view of the amendments above and the remarks below.

Rejection under 35 USC § 102

Claims 1-3 and 11 stand rejected under 35 USC § 102(e) as being anticipated by Frolov et al. U.S. Patent No. 6,715,225. Applicant has amended the claims to clarify limitations intended with the original wording of the claims and to better distinguish the claims from the cited references.

Specifically, the applicant has addressed the limitations as to the “planar” nature of the illuminator and the “electroluminescent” feature of the source of illumination. Although it was intended that the original claim language of “planar illuminator” exclude illumination from multiple point sources such as light bulbs, LEDs, as well as illumination from linear sources, such as fluorescent lamps and light tubes, the new language now specifies that “planar” indeed means a “planar source of illumination

providing illumination from each point in a planar area corresponding to the planar electroluminescent illuminator”

Similarly, although the original claim language of “electroluminescent illuminator” was intended to exclude light emission by fluorescence, LEDs, incandescence and other mechanisms not considered by the art to be “electroluminescent,” the new claim language now clarifies this pre-existing limitation. Specifically, the new language now states that “the planar electroluminescent illuminator produc[es] the illumination by electroluminescence of an electrically excited electroluminescent material extending over the planar area corresponding to the electroluminescent illuminator.”

It is believed that the above limitations are inherent properties of a “planar electroluminescent illuminator” of the type originally claimed.

In view of the above, Frolov’s disclosure of an illuminated exit bar that incorporates “an array of light sources” (see the Abstract and column 2 lines 14-29) does not disclose the defined and claimed “planar electroluminescent illuminator” of the present invention that produces illumination from each point in an area of a plane.

As previously noted, the “array of light sources” is disclosed to be “a plurality of light emitting diodes (LEDs) arranged on a printed circuit board” column 2 lines 21-24.

The second key difference between the LEDs of Frolov et al. and the claimed illuminator of the present invention is that LED’s are not an “electroluminescent illuminator” as now defined and claimed. Specifically, claim 1 now includes the inherent properties of a planar electroluminescent illuminator by specifying that “the

planar electroluminescent illuminator produc[es] the illumination by electroluminescence of an electrically excited electroluminescent material extending over the planar area corresponding to the planar electroluminescent illuminator.”

“Electroluminescent” devices are not made with, and do not require, semiconductor materials, as LEDs require - they use an electroluminescent material that extends over a plane and is electrically excited. The term “electroluminescent” is a term of art describing a particular category of lighting that excludes semiconductor LEDs, as well as incandescent, fluorescent and other types of prior art illuminators. Although the Examiner has found references that refer to LEDs as electroluminescent, it is believed that such usage is incorrect, and is fully excluded by the specification and arguments made herein.

Electroluminescent illuminators are made from electroluminescent materials that directly convert particular types of electrical energy to light. In a planar electroluminescent illuminator, the electroluminescent material selected is formed into an area of a plane, which is then electrically excited with electrodes that are also typically planar. The electrodes are appropriately designed and positioned to uniformly excite the electroluminescent material.

The use of a planar electroluminescent illuminator provides several advantages over other types of illumination, such as LEDs. Although the Examiner states that LEDs have some advantages similar to electroluminescent materials, they do not have all or even most such advantages. Electroluminescent illuminators are thinner, provide more uniform illumination and are less expensive to produce or replace than a configured

array of LEDs on a printed circuit board. An electroluminescent illuminator allows different signs to be quickly created and installed, perhaps in different languages, without concern as to whether an array of LEDs optimized for a previous sign will properly illuminate new letters of a new sign.

On the other hand, an electroluminescent illuminator also has certain disadvantages, such as the necessity to operate at high voltage in a metal device that will be touched by the public. The present application describes and claims the solution to such problems, as well as describing the new invention that uses an electroluminescent illuminator.


Accordingly, one of skill in the art who was familiar with the point source LED design of Frolov et al. would not have been able to perform a simple substitution of light sources, even if the option of an electroluminescent illuminator had been considered. The applicant submits that such an option would not have been considered without hindsight reference to the present invention.

Rejection under 35 USC § 103

Claims 14 and 18 stand rejected under 35 USC § 103 as being obvious over Frolov et al. in view of Parra (United States Patent No. 6,111,370). Applicant respectfully repeats the traversal of this rejection. However, in view of the amendments and arguments above, it is not believed to be necessary to repeat the arguments made in the last response.

In view of the amendments made above, it is respectfully submitted that the application has now been brought into a condition where allowance of the entire case is proper. Reconsideration and issuance of a notice of allowance are respectfully solicited.

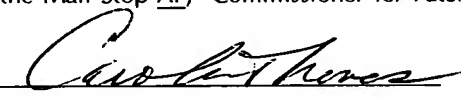
Respectfully submitted,


 Peter W. Peterson
 Reg. No. 31,867

DeLIO & PETERSON, LLC
 121 Whitney Avenue
 New Haven, CT 06510-1241
 (203) 787-0595

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Name: Carol M. Thomas Date: September 9, 2005 Signature: 
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